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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/530,885

04/11/2005

Hiroshi Sasaki

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EXAMINER

FEELY, MICHAEL J

ART UNIT

PAPER NUMBER

1712

MAIL DATE

DELIVERY MODE

07/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/530,885	<b>Applicant(s)</b> SASAKI, HIROSHI	
	<b>Examiner</b> Michael J. Feely	<b>Art Unit</b> 1712	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11 April 2005.
- 2a) ☐ This action is **FINAL**.      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20061222</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Pending Claims*

Claims 1-12 are pending.

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the

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reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-4, 9, and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Xu (US 2004/0077745).

Regarding claims 1-4, 9, and 10, Xu discloses: (1) a cationic polymerization type composition (Abstract; paragraphs 0004-0010) comprising:

(A) component: a monofunctional oxetane compound containing one oxetanyl group in the molecule thereof (paragraphs 0011, 0012, and 0034-0049),

(B) component: a compound containing two or more cationic ring-opening polymerizable cyclic ether residues in the molecule thereof (paragraphs 0011-0033),

(C) component: a cationic polymerization initiator having latency (paragraphs 0061-0069), and

(D) component: a metal oxide fine particle having a particle size of from 1 to 1,000 nm ( $0.001\mu - 1\mu$ ) (paragraphs 0074-0075); (2) wherein the component (D) is at least one member selected from silica, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, cerium oxide, antimony oxide, tin oxide, and antimony-doped tin oxide (paragraphs 0074-0075); (3) wherein the component (D) is silica, titanium oxide, aluminum oxide, zinc oxide, or tin oxide (paragraphs 0074-0075); (4) wherein the component (D) is silica (paragraphs 0074-0075);

(9) wherein the component (C) is an onium salt having light latency (paragraphs 0061-0069); and (10) wherein the component (C) is an onium salt containing, as an anion residue, one member selected from  $\text{SbF}_6^-$ ,  $\text{AsF}_6^-$ , and  $\text{B}(\text{C}_6\text{F}_5)_4^-$  (paragraphs 0061-0069).

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4. Claims 1-4 and 9-12 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Takamatsu et al. (US 2003/0062125).

Regarding claims 1-4 and 9-12, Takamatsu et al. disclose: *(1)* a cationic polymerization type composition (Abstract) comprising:

(A) component: a monofunctional oxetane compound containing one oxetanyl group in the molecule thereof (*claim 4*; paragraphs 0034-0078) *and/or*

(B) component: a compound containing two or more cationic ring-opening polymerizable cyclic ether residues in the molecule thereof (*claim 4*; paragraphs 0032-0033);

(C) component: a cationic polymerization initiator having latency (paragraphs 0081-0084); and

(D) component: a metal oxide fine particle having a particle size of from 1 to 1,000 nm ( $0.001\mu - 1\mu$ ) (paragraphs 0112-0116 and 0172); *(2)* wherein the component (D) is at least one member selected from silica, titanium oxide, aluminum oxide, zirconium oxide, zinc oxide, cerium oxide, antimony oxide, tin oxide, and antimony-doped tin oxide (paragraphs 0112-0116 and 0172); *(3)* wherein the component (D) is silica, titanium oxide, aluminum oxide, zinc oxide, or tin oxide (paragraphs 0112-0116 and 0172); *(4)* wherein the component (D) is silica (paragraphs 0112-0116 and 0172);

*(9)* wherein the component (C) is an onium salt having light latency (paragraphs 0081-0084); *(10)* wherein the component (C) is an onium salt containing, as an anion residue, one member selected from  $\text{SbF}_6^-$ ,  $\text{AsF}_6^-$ , and  $\text{B}(\text{C}_6\text{F}_5)_4^-$  (paragraphs 0081-0084);

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(11) wherein an organosilicon compound is added as a component (E) (paragraphs 0117-0123); (12) wherein the organosilicon compound to be used as the component (E) contains a cationic polymerizable group (paragraphs 0017-0123).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xu (US 2004/0077745) in view of Igarashi et al. (JP 11-140279).

Regarding claims 5-8, Xu disclose: (6) wherein at least a part of the component (A) is a monofunctional oxetane compound containing an aromatic group in the molecule thereof (paragraph 0047); (7) wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues and aromatic groups in the molecule thereof (paragraphs 0013-0033); and (8) wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues in the molecule thereof, which is selected from a substituted or unsubstituted bisphenol resin glycidyl ether, a substituted or unsubstituted novolak resin glycidyl ether, a substituted or unsubstituted biphenol resin glycidyl ether, and a substituted or unsubstituted naphthalene resin glycidyl ether (paragraphs 0013-0033). However, Xu fails to explicitly disclose: (5) wherein the component (A) is blended in an

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amount of from 10 to 80 parts by mass based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B).

Igarashi et al. disclose an analogous composition featured a blend of an oxetane compound and an epoxy (*see Abstract*). They disclose a range that overlaps the instantly claimed range, wherein these amounts are selected to achieve a balance of flexibility and hardness in the cured material (*see Abstract; paragraph 0024*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to blend from 10 to 80 parts by mass of component (A) based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B), as taught by Igarashi et al, in the composition of Xu because Igarashi et al. disclose a range that overlaps the instantly claimed range, wherein these amounts are selected to achieve a balance of flexibility and hardness in the cured material.

7. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takamatsu et al. (US 2003/0062125) in view of Igarashi et al. (JP 11-140279).

Regarding claims 5-8, Takamatsu et al. disclose: **(6)** wherein at least a part of the component (A) is a monofunctional oxetane compound containing an aromatic group in the molecule thereof (paragraph 0042); **(7)** wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues and aromatic groups in the molecule thereof (paragraphs 0032-0033); **(8)** wherein at least a part of the component (B) is an epoxy compound containing two or more glycidyl ether residues in the molecule thereof, which is selected from a substituted or unsubstituted bisphenol resin glycidyl ether, a substituted or

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unsubstituted novolak resin glycidyl ether, a substituted or unsubstituted biphenol resin glycidyl ether, and a substituted or unsubstituted naphthalene resin glycidyl ether (paragraphs 0032-0033). However, Takamatsu et al. fail to explicitly disclose: (5) wherein the component (A) is blended in an amount of from 10 to 80 parts by mass based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B).

Igarashi et al. disclose an analogous composition featured a blend of an oxetane compound and an epoxy (*see Abstract*). They disclose a range that overlaps the instantly claimed range, wherein these amounts are selected to achieve a balance of flexibility and hardness in the cured material (*see Abstract; paragraph 0024*).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to blend from 10 to 80 parts by mass of component (A) based on 100 parts by mass of the total sum of the polymerizable material comprising the component (A) and the component (B), as taught by Igarashi et al, in the composition of Takamatsu et al. because Igarashi et al. disclose a range that overlaps the instantly claimed range, wherein these amounts are selected to achieve a balance of flexibility and hardness in the cured material.

### ***International Search Report***

8. The international search report cites two X-references. They have been considered; however, they do not appear to teach or suggest the instant invention.



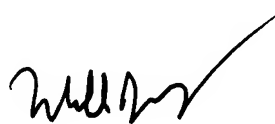
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*Communication*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Feely whose telephone number is 571-272-1086. The examiner can normally be reached on M-F 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Michael J. Feely  
Primary Examiner  
Art Unit 1712

June 24, 2007

**MICHAEL FEELY**  
**PRIMARY EXAMINER**